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THE *Popular Science Monthly* gives a portrait of Charles Semper as frontispiece and contains a sketch of his life. The most interesting article in the number is one by Professor W. K. Brooks on 'Migration,' but many will read with equal interest the article on 'Evolution and Teleology,' by Dr. J. A. Zahm, presented before the recent Catholic Scientific Congress. Among the other papers is one on 'Criminal Anthropology in Italy,' by Miss Helen Zimmern, and one on the 'Electric Transmission of Water Power,' by Mr. William Baxter, Jr. The number also contains three extended articles on economic topics.

THE *Astronomical Journal* for March 28th is greatly enlarged to make place for Dr. T. J. J. See's discoveries and measures of double multiple stars in the southern hemisphere. The first catalogue contains 500 entries, the results of work during the first year and four months at Flagstaff and Mexico.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON—290TH MEETING, SATURDAY, MARCH 26.

THE evening was devoted to a 'Symposium on the Comparative Value of Factors Influencing the Distribution of Life,' the subject being introduced by Dr. C. Hart Merriam, whose remarks were particularly directed to those factors governing the distribution of terrestrial life. The most important of these he considered to be temperature, next humidity and the elevation of the base level. The effects of the general slope of elevated regions was discussed and its influence in extending or curtailing the various life zones according as the slope was towards the north or south. The twofold effect of streams was dwelt on, particularly of rapid mountain streams, along whose sides is a narrow border of northern forms, while valleys produced by erosion permit the entrance of southern species.

Dr. L. O. Howard spoke of the distribution of insects and considered the prime factors to be: 1. Temperature as influencing all groups; 2. Distribution of food plants as influencing phytophagic species and the species dependent upon them; 3. The capacity of the species to conquer in the struggle for existence; 4. The influence of civilization. He dwelt especially upon the complicated inter-relationships among insects and showed that restriction in distribution due to an apparently obvious cause might in many cases in reality be due to a perfectly blind cause, due to these interrelations of forms.

Dr. W. H. Dall spoke of the distribution of aquatic mollusks, considering temperature to be the preponderating factor, largely so through its effects on very young mollusks. Thus adults could live and thrive where the temperature was fatal to the young. Pressure was stated to have little effect, some species ranging from a depth of three fathoms to 1,700 fathoms. Abyssal forms were said to be of wide distribution, while those found above 500 fathoms were generally derived from littoral species.

Mr. F. V. Coville, speaking of plants, said that the factors influencing their distribution were in some respects quite different from those affecting animals. For example, plants had no power of choice and could not remove from the place when their seeds fell, however unsuitable it might be. The temperature of the soil was another powerful factor affecting plants, as well as the character of the soil itself and its drainage, and, above all, the amount of moisture it received.

Dr. Theo. Gill said that temperature was an element affecting large aggregates of animals and that other causes influenced the smaller groups. The geological history of the earth had very much to do with the present distribution of terrestrial life; and while temperature was the great factor in determining the extent and character of marine faunas, temperature subject to the lay of the land governed the distribution of life on land.

Mr. B. E. Fernow said that the struggle for existence must be taken into account and that the ability of a plant to adapt itself to the environment frequently accounted for an extended or restricted range. Thus a plant of limited range in one country, when removed to a region where it was not subject to the competition of other forms, might spread with great rapidity.

Professor B. W. Evermann spoke of the influence of great drainage areas on fresh-water fishes

and the effect of the character of the bottom over which streams flowed.

F. A. Lucas,
Secretary.

GEOLOGICAL SOCIETY OF WASHINGTON.

At the regular meeting held on Wednesday, March 23, 1898, Professor C. R. Van Hise, of the U. S. Geological Survey and the University of Wisconsin, made the principal contribution. It was on Crystalline Schists and Rock Flowage. The propositions advanced were radical, and to state them within the limits of a single paragraph and without the evidence will not be attempted. The paper will, of course, be published in due time.

Mr. Geo. Otis Smith, U. S. Geological Survey, spoke on the 'Igneous Phenomena in the Tintic Mountains, Utah.'

The Tintic Mountains, he said, are situated in the Great Basin, but do not belong to the Basin range type. They possess an axis of closely folded Paleozoic strata, which were deeply eroded in Mesozoic time, while later the area became the seat of volcanic activity. The earliest eruption was of quartz-porphyry and rhyolite. The next eruption was andesitic and a well defined cone of tuffs and lavas, now deeply dissected, can be seen on the western slope of the range. The vent is filled with an agglomerate containing large blocks of Paleozoic quartzite and limestone. This earlier andesite series, largely fragmental, is capped by very extensive flows of mica-andesite and pyroxene-andesite.

A dioritic mass covers an area of several square miles on the western slope. On the north this rock cuts the Carboniferous limestone and includes blocks of the quartzite and limestone hundreds of feet in diameter. Here the rock is a typical granular hornblende-diorite. On the south the intrusive mass breaks across the volcanic cone and the rock is a diorite-porphyry. Dikes from this mass extend into the tuffs and connect with the overlying andesite flows. On the crest of the range no division line can be drawn between the andesite flows and the diorite-porphyry intrusive. In a continuous rock-mass a perfect gradation is seen between a granular diorite and a glassy andesite. The dioritic intrusive is, therefore, the youngest rock of the area and occupies the stock or neck through which the later flows of andesite were erupted.

The meeting closed with a brief description, by Mr. A. C. Spencer, of a 'blow-out' near Mancos, Colorado.

W. F. Morsell.

PHILOSOPHICAL SOCIETY OF WASHINGTON.

The 482d meeting of the Philosophical Society was held March 19th, at the Cosmos Club, at 8 p. m. The first paper of the evening was by the President, Professor F. H. Bigelow, on 'The State of the Philosophical Society. An interesting table of statistics was presented and discussed, from which encouraging conclusions were drawn in regard to the future work of the Society. The second paper was by Mr. Herbert Friedenwald, on 'The Declaration of Independence—a Summary of Colonial Grievances.' In the address the following facts were brought out and emphasized:

The Declaration as a political document marks a significant point in the history of the Revolution. Jefferson was chosen to draw it up because of his familiarity with colonial history, and because of the feeling that he was the fittest man to summarize the grievances of the colonies. In so doing he omitted no material point in the 'long train of abuses,' and the Declaration, therefore, is a brief, yet eloquent, account of the political contest that waged between England and America for more than a hundred years.

It has not been so viewed by the historians of the period, with the result that from no histories is it possible to get at the true meaning of the counts in the indictment against King and Parliament.

Each of these charges was then taken up in turn and, from a study of the sources, was elucidated.

E. D. Preston,
Secretary.

ENGELMANN BOTANICAL CLUB.

The Club met at the Shaw School of Botany on Thursday, March 10th, thirty-three members present. Professor William Trelease dis-

cussed the plans for the formation of a catalogue of the local flora. He made numerous suggestions as to methods for collecting the lower plants, illustrating his remarks with specimens. Three new members were elected.

The Club met again on March 24th, thirteen members present. Dr. N. M. Glatfelter exhibited specimens of *Salix cordata* and discussed the adnacy of their filaments as well as reduplication in some cases. He showed that adnate filaments, partial or more or less complete, are quite common, a circumstance never mentioned before by authors. Two free stamens in this species have always been recognized heretofore, and only that acute observer, W. Barratt (in Monograph of North American Willows), admitted two or *three* free stamens. Dr. Glatfelter exhibited specimens having three to five filaments with as many anthers. The filaments were united in various ways, sometimes in sets of two each, sometimes four all joined half way, in several cases even five, more or less grown together. One or two anthers were usually imperfect. The specimens were taken from a tree of *Salix cordata* var. *vestita*.

Another series of specimens of *Salix cordata* × var. *vestita* × *S. sericea* were exhibited, showing matured catkins which had not been pollinated, as the staminate flowers had all disappeared much earlier, thus limiting the further propagation of this particular form. Three new members were elected.

HERMANN VON SCHRENK,
Secretary.

NEW YORK ACADEMY OF SCIENCES—SECTION OF GEOLOGY AND MINERALOGY, MARCH 21, 1898.

THE paper of the evening, illustrated by lantern, was by Dr. Heinrich Ries, entitled 'The Clay and Kaolin Deposits of Europe.' Dr. Ries sketched briefly the geographical distribution of the kaolin deposits and their relation and comparison to similar deposits of America. He then gave special attention to the deposits of Great Britain, Belgium, Denmark, Germany and Austria, and mentioned briefly those found in other regions. He described particularly the deposits of Cornwall, which are found in association with veins of tin in granite areas, where it is supposed that the feldspar has been changed to kaolin through the influence of fluoric fumes rising from below. These products are very pure, containing ninety-seven and one-half per cent. of clay substance. He also spoke of the ball plastic clays found in southwestern England, which occur in lenses in large beds of sand and are used to mix with non-plastic kaolins. Refractory clays are found in England and Scotland in the Carboniferous rocks and are worked by underground mining. Impure clays, used for bricks, are particularly found in the vicinity of London. The Staffordshire blue brick, Fuller's Earth and Bath brick deposits were sketched briefly, and the technological treatment in Great Britain, Germany and the United States was compared. The latter part of the paper was devoted to a rapid summary of the position, quality, uses and manner of mining of the famous clays of Bornholm, Denmark; of the Glasspot clays of southeastern Belgium; of the kaolin deposits of Limoges, France, and the deposits of Prussia.

Professor Henry F. Osborn described the progress made this year, through international effort, in correlating the larger divisions of the fresh-water Tertiary deposits of Europe by a study of the vertebrate remains.

Professor James F. Kemp was elected chairman of the Section and Dr. Heinrich Ries secretary for the ensuing year.

RICHARD E. DODGE,
Secretary.

NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE regular monthly meeting of the Society was held on March 11th at the College of the City of New York, Dr. Wm. McMurtrie in the chair. On recommendation of the chairman, speaking in behalf of the Executive Committee, the time for the election of officers was changed from the October to the June meeting, to allow the newly elected officers an opportunity to prepare the work for the ensuing year during the summer months. Dr. Bogert called the attention of the members to the fact that anyone interested in zoo-chemistry and wishing to do research work in that direction might avail him-

self of the benefits of the John Strong Newberry fund.

The first paper on the program was a paper by W. P. Mason, describing a 'New Bacteria Counter.' In the absence of Professor Mason, the paper was read by Dr. Bogert and illustrated by an example of the apparatus described.

The second paper was by Dr. J. H. Stebbins, on the 'Action of Sulphuric Acid on Thymol.' Dr. Stebbins exhibited some photographs of the crystals of the compounds formed in his investigation.

A paper by Messrs. Wm. K. Alsop and J. H. Yocum, on 'The Composition of the Ashes of Some Raw Tanning Material,' was read by Mr. Yocum. One of the interesting points emphasized by the author was the large amount of manganese found in some of the ashes, rather unusual in the vegetable kingdom.

P. H. Conradson described 'Some Laboratory Experiments on Standardizing and Investigating Viscometers.' Dr. Conradson mentioned that there were about as many viscometers as there were oils, and that they all left a great deal to be wished for. He gave a very interesting description of the various kinds in use, illustrating his remarks by charts and drawings. A general discussion followed.

The session was closed by a paper on the 'Technology of Glue,' by E. R. Hewett. Dr. Hewett gave a very complete description of the manufacture of glue, including its history and chemistry, and also exhibited a large number of specimens.

Durand Woodman,
Secretary.

ALABAMA INDUSTRIAL AND SCIENTIFIC SOCIETY.

The eighth annual meeting of this Society was held in the city of Birmingham, March 4, 1898, President Truman H. Aldrich in the chair. Twenty members and a number of visitors were present. The Secretary, in making a report upon the statistics of mineral production, called attention to the difficulty encountered in inducing the producers to send in their returns promptly, and suggested that the Society recommend that the representatives from Jefferson County to the next General Assembly be requested to amend the State Mining Law in such a way as to secure prompt returns. A committee consisting of the Secretary, J. A. Montgomery and J. D. Hillhouse was appointed, to draw up the desired amendment. Professor Henry McCalley, exhibited and explained to the Society a manuscript map of the Warrior Coal Field, prepared under the auspices of the Geological Survey and soon to be published, on which were shown the outcrops of all the important coal seems of that region. Dr. William B. Phillips, gave a short account of his recent examinations of some brown ore deposits near Leeds, and made some remarks concerning the probable mode of formation of the ore beds. Dr. Phillips also gave an account of some experiments recently carried out by himself and others in Pittsburg upon the coking of some Alabama coal from the Pratt seam, in a by-product plant. The experiments were most satisfactory, and the Doctor expressed the opinion that when this by-product plant was put in operation in Alabama a number of small industries which use these products would soon spring up.

The reports of the Secretary and of the Treasurer were then rendered. The Society has at this time 41 active members, and this number was increased at the meeting by the election of seven new members.

The address of the retiring President was then delivered, in which the object and aims of the Society were recited and some of the results pointed out which had followed from its efforts. He also made some suggestions as to what the Society might further undertake. The annual election of officers was then held with the following result: President, Professor M. C. Wilson, of Florence; Vice-Presidents, J. G. Moore, of Blocton, and Chas. J. Geohegan, of Birmingham, the four other Vice-Presidents holding over being Joseph Squire of Helena, James H. Fitts, of Tuscaloosa, Jno. A. Montgomery, of Birmingham, and J. W. Minor, of Thomas. The Treasurer, Henry McCalley, and Secretary, Eugene A. Smith, were continued. The meeting then adjourned until some time in May, next. After the meeting the members and visitors dined together.

Eugene A. Smith,
Secretary.